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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,277	03/21/2001	Toshihiko Hanamachi	6946-10	3964

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EXAMINER

ZERVIGON, RUDY

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 01/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/814,277

Applicant(s)

HANAMACHI ET AL.

Examiner

Rudy Zervigon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3, 5, 7, 10, and 18 are rejected under 35 U.S.C. 102( b) as being anticipated by McMillin et al (USPat. 5,835,334). McMillin teaches a heater device (Figure 1) including a ceramic (“anodized aluminum”, column 4, lines 10-15) heater (2, column 5, lines 35-50) defining a heating surface. McMillin further teaches a detachable (column 4, lines 52-55) ceramic plate of aluminum nitride or alumina (1,1c, column 4, lines 20-25, 33-39; alumina – “Al<sub>2</sub>O<sub>3</sub>”) that is placed on the heating surface (Figure 1), and in turn supports an object (4) to be heated. McMillin further teaches a radio frequency electrode (10, Figure 1) buried in the ceramic heater.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMillin et al (USPat. 5,835,334). McMillin is discussed above. McMillin further teaches an electrode (1) for RF power (24) buried in the ceramic plate (1,1c; Figure 1). McMillin does teach the thickness of the ceramic dielectric layer 1c as being within 5-50 $\mu$ m (column 4, line 38). McMillin does not teach that the ceramic plate has a thickness of less than 2mm or less than 5mm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the thickness of the ceramic plate.

Motivation to optimize the thickness of the ceramic plate is to optimize the electrostatic clamping force (column 1, lines 35-38). Further, it is well established that changes in apparatus dimensions are within the level of ordinary skill in the art. (Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); See MPEP 2144.04)

1. Claims 8, 9, and 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMillin et al (USPat. 5,835,334) in view of Beinglass et al (USPat. 5,645,646). McMillin is discussed above. McMillin does not discuss an annular low wall surrounding the supporting surface, nor does McMillin teach a process vessel housing the heater and ceramic plate.

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Beinglass teaches a similar chuck (20; Figures 1-3,6) including an annular low wall surrounding the supporting surface (Figure 2,3,6) and a process vessel (12) housing the chuck.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the height of McMillin's annular low wall to surround the supporting surface and include this structure in a process vessel housing as taught by Beinglass.

Motivation to increase the height of McMillin's annular low wall to surround the supporting surface and include this structure in a process vessel housing as taught by Beinglass is to provide for uniform heating (column 1, lines 41-51). Motivation to include the support of McMillin in the chamber of Beinglass is to use the chuck as designed by McMillin in a processing apparatus.

### ***Response to Arguments***

2. Applicant's arguments filed October 16, 2002 have been fully considered but they are not persuasive.

3. With regard to Applicant's position that McMillin teaches "permanently attaching the ceramic material to the metallic electrode cap using anodization, deposition, spray, bonding, or other similar process" is inaccurate in view McMillan's mechanical fasteners (8, Figure 1) already cited that *are not* covered by McMillan's insulator coating 1c as shown in Figure 1. As a result McMillan's ceramic plate is detachable as claimed.

4. In response to applicant's argument that McMillan's heater would not function because "one component" would be removed if one were to remove the ceramic plate 1 by loosening the

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mechanical fasteners, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Further, Applicant's argument is mute because when McMillan's ceramic plate is removed by loosening the mechanical fasteners (8), McMillan's heater (2, 10, column 5, lines 34-40) would still heat properly.

5. With regards to Applicant's position that McMillan does not teach a ceramic heater, Applicant is directed to McMillan's teaching of a ceramic heater 2, 10; Figure 1 "composed of, for example, anodized aluminum" (column 4, lines 10-15; column 4, line 26; column 5, lines 35-40).

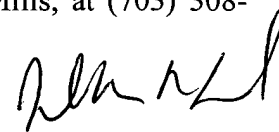
6. Arguments directed to Deguchi are mute in view of the newly cited reference to Beinglass et al (USPat. 5,645,646).

***Conclusion***

7. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.



JEFFRIE R. LUND  
PRIMARY EXAMINER